REMARKS

Claims 3-6 are pending in this application. By this Amendment, claims 3-6 are amended. Claims 1 and 2 are canceled without prejudice to, or disclaimer of, the subject matter recited in those claims. Reconsideration of this application based on the above amendments and the following remarks is respectfully requested.

The Office Action, in paragraph 2, rejects claims 1 and 2 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,917,620 to Hasegawa et al. (hereinafter "Hasegawa"). The cancellation of claims 1 and 2 renders this rejection moot.

The Office Action, in paragraph 4, rejects claims 3-6 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,633,415 to Arafune et al. (hereinafter "Arafune") in view of Hasegawa. This rejection is respectfully traversed.

Arafune teaches an image input apparatus for reading an original image by moving an optical unit with a motor which is used to repeatedly read an original image (Abstract). The specific concern that Arafune seeks to overcome is deterioration in precision and, therefore, resolution, of images scanned a plurality of times based on mechanical clearance and/or play in the motor drive unit for the image scanning element (see, e.g., col. 1, lines 32-44). Arafune defines a variable P as equal to the pitch of a photoelectric conversion pixel (col. 4, lines 51-53). On a second-time scanning of an individual original document placed on the original-placing glass board 100 shown in at least Fig. 5A of Arafune, a glass plate 11 is slanted in such a way to cause the optical axis of an image forming lens 105 to offset by a factor of P/2 or half of the pixel pitch P (col. 5, lines 31-37). As such, with reference to Fig. 6 of Arafune, on subsequent scans "[t]he centers of these pixels shift from each other by P/2 both in the main scanning direction and the sub-scanning direction" (col. 6, lines 1-3). Thus, as shown in at least Figs. 6 and 7 of Arafune, subsequent scans do not read pixel data at different times from the same position.

Claims 3-6 each recite, among other features, averaging and/or adding a plurality of pixel data sets which are stored in a pixel data storage device, the plurality of pixel data sets representing pixel data having been read at different times from the same position with reference to a direction in which image pickup elements of the respective image pickup element rows are arranged. Applicant respectfully submits that Arafune cannot reasonably be read to teach, or to have suggested, an adding and/or averaging operation carried out on pixel data having been read at different times from the same position. The Office Action asserts that column 6, lines 16-63 of Arafune disclose such a feature. Applicant respectfully submits that this assertion is incorrect. To the contrary, this passage discloses reading of data at different times (i.e., different scans) of different positions (see, e.g., col. 6, lines 13-18).

Furthermore, it is variations in the pixel data based on mechanical movement of the disclosed image reading component that Arafune seeks to overcome. This is accomplished in Arafune by offsetting the centers of scanning pixels on separate scans. This principle is in direct opposition to the concept of reading the same pixel data from the same position.

Hasegawa does not disclose any sort of adding or averaging device or method, and as such, does not overcome any shortfall in the application of Arafune to the subject matter recited in claims 3-6.

Finally, Applicant respectfully submits that, despite the assertion to the contrary in the Office Action, there is nothing to suggest that one of ordinary skill in the art would have been motivated to combine the teachings of Arafune and Hasegawa. Arafune seeks to overcome mechanically-induced distortion effects based on multiple scans of the single original by a single scanning element. Hasegawa is directed at increasing reading speed with an increased signal-to-noise ratio by using multiple rows of scanning elements. Applicant respectfully

submits that attempting to combine the teachings of Arafune and Hasegawa would likely have resulted in a much more complicated device as offsetting and averaging the inputs from multiple rows of mechanically moved sensors would likely prove much more difficult than attempting to optically move an average pixel data from a single row of sensors as is disclosed in Arafune. Such increased complexity would likely slow the scanning of any combined device rather than speed up the processing as is the objective of Hasegawa.

For at least these reasons, Applicant respectfully submits that the combination of Arafune and Hasegawa cannot reasonably be read to disclose, or even to have suggested, the combination of all of the features varyingly recited in claims 3-6.

Accordingly, reconsideration and withdrawal of the rejection of claims 3-6 under 35 U.S.C. §103(a) as being unpatentable over Arafune in view of Hasegawa are respectfully requested.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 3-6 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number set forth below.

Respectfully submitted,

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